

Staff Report on

Recommended Changes to

Lahontan Region's Section 303(d) List of Impaired Surface Water Bodies

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Executive Summary

This staff report summarizes the background for Lahontan Regional Board staff's recommendations for changes in the Clean Water Act Section 303(d) list of impaired surface water bodies, and priorities and schedules for development of Total Maximum Daily Loads (TMDLs) for listed waters. In March 2001, staff solicited information and data from the public for use in the list update. Staff also reviewed other existing and readily available information such as discharger self-monitoring reports in the Regional Board's files, reports in the Regional Board's library, and the U.S. Geological Survey's online water quality databases. This report outlines the general criteria used to formulate recommendations. More information on recommendations for specific water bodies is provided in separate "fact sheets." Staff's recommendations would remove 29 water body/pollutant combinations from the list, add 45 new water body/pollutant combinations, and retain 69 water body/pollutant combinations from the 1998 list on the 2002 list. Clarification of the nature of impairment is recommended for some waters (e.g., separate listings for nitrogen and phosphorus rather than a single listing for nutrients). An additional 168 water body/pollutant combinations are recommended for inclusion in a separate "watch list" of waters needing further monitoring and/or assessment to determine whether listing is warranted in the future. The Lahontan Regional Board will consider action on recommendations to the State Water Resources Control Board at its January 2002 meeting.

Introduction

Section 303(d) of the federal Clean Water Act requires states to identify surface water bodies which are not attaining water quality standards and are not expected to do so even with the use of technology-based effluent limitations and other legally required pollution controls such as Best Management Practices. Waters may be listed for more than one pollutant. For each listed water body/pollutant combination, states must develop a strategy, called a Total Maximum Daily Load, or TMDL, to ensure attainment of standards. Section 303(d) lists and priority rankings of water body/pollutant combinations must be updated every two years.

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) is the state agency responsible for setting and enforcing water quality standards for waters in about 20 percent of the state in the portion east of the Sierra Nevada crest and in the northern Mojave Desert. Regional Boards have been asked to provide recommendations to the California State Water Resources Control Board (State Board) for use in the 2002 update of the statewide Section 303(d) list. This staff report summarizes Lahontan Regional Board staff's rationale for recommended additions to and deletions from the Section 303(d) list, and for prioritization of listed waters for development of TMDLs. The report will be circulated for public review. Changes in recommendations may be made in response to written public comments and/or testimony before the Board, and the Lahontan Regional Board will be asked to approve final recommendations for transmittal to the State Board at its January 2002 meeting. The State Board will conduct its own public participation process and will consider approval of a revised statewide Section 303(d) list for submission to the U.S. Environmental Protection Agency in early 2002.

The Section 303(d) List

Section 303(d) requires states to identify those waters within its boundaries for which effluent limitations and controls on thermal discharges are not stringent enough to implement any standard applicable to such waters, to establish priority rankings, and to establish total maximum daily loads for waters impaired by pollutants or thermal discharges. Section 303(d) applies only to surface waters of the United States, including lakes, streams, springs, and wetlands. Surface waters include intermittent and ephemeral waters.

Although Section 303(d) emphasizes point source discharges, the requirement to do TMDLs also applies to water bodies impaired by nonpoint sources or by a combination of point and nonpoint sources. The Lahontan Region has only a few direct point source discharges to surface water (including point source stormwater discharges). The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) prohibits discharges to surface waters throughout the North Lahontan Basin (from the Walker River watershed north to the Oregon border) and in high elevation portions of the South Lahontan Basin (from the Mono Lake watershed south). Most water quality problems in the Lahontan Region come from nonpoint sources (for example, erosion from watershed disturbance by logging, grazing, or construction activities).

The requirement to do TMDLs applies only to waters impaired by “pollutants.” Pollutants are defined in the Clean Water Act to include: “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.” TMDLs involve calculations of existing or allowable loads of discrete substances or of heat.

The Clean Water Act also defines “pollution” as “the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.” “Pollution” does not always involve “pollutants”; for example, aquatic life and wildlife uses of water may be adversely affected by water diversions or reservoir management practices. When a water body is impaired by “pollution” but not by “pollutants,” and loading calculations are not feasible, the problem is best handled by control measures other than TMDLs.

Update of the Section 303(d) list is not a regulatory or policy action, but an administrative procedure to prioritize water bodies for action. The adoption of Basin Plan amendments to incorporate a TMDL is a regulatory action.

Public Participation

2001-2002 Public Participation Process

Lahontan Regional Board staff updated and expanded the regionwide mailing list for the 1998 Section 303(d) list update and in March 2001 mailed a letter soliciting information and data for use in the current list update. The solicitation process was also publicized in newspapers and via the Internet. The deadline for submittal of information and data was May 15, 2001. Responses received by that date are summarized below. Technical staff at both Lahontan Regional Board offices were asked to notify water

quality assessment staff of water quality problems and the existence of information and data about these problems. Assessment staff reviewed publications and data sets available in the Regional Board's South Lake Tahoe office (including discharger monitoring files containing ambient surface water data). Staff also reviewed other existing and readily available sources of information including the most recent 303(d) list and California Section 305(b) report, the State Water Resources Control Board's Toxic Substances Monitoring Program database, fish consumption advisories and criteria documents produced by the California Office of Health Hazard Assessment, and online water quality databases maintained by the U.S. Geological Survey and the Nevada Division of Environmental Protection.

The scope of the Lahontan Region's assessment process was limited by several factors. Staff resources and time available for the update were limited. Monitoring data for surface waters in the Lahontan Region are limited due to past and present resource constraints on baseline/trend monitoring and the fact that the Lahontan Region has few discharges to surface water and thus few sets of discharger monitoring data. Biomonitoring (including citizen monitoring) is under way in a number of Lahontan Region watersheds, but reference conditions are not yet well defined. Most of the toxic "priority pollutants" covered by the California Toxics Rule and National Toxics Rule are not routinely monitored in Lahontan Region waters.

Factors to be considered in formulation of recommendations for listing and delisting (see below) were developed through consideration of past criteria and discussions with staff of the State and other Regional Boards, and with Lahontan Regional Board management. This staff report, tables summarizing staff recommendations, and fact sheets providing additional information were prepared for public review. The availability of these documents will be noticed to the Regional Board's Section 303(d) mailing list. After consideration of public comments, the Lahontan Regional Board will take action on a resolution to transmit final recommendations regarding the list update to the State Board. Following Board action, Regional Board staff will complete and submit the administrative record to the State Board. Information about the water bodies recommended for listing or delisting will be entered into the Geospatial Waterbody System (GeoWBS) computer database.

Information and Data Received in Response to March 2001 Solicitation

Full copies of information and data submitted in response to the public solicitation will be included in the administrative record for the Regional Board's list update process. The following is a summary of comments received in response to the solicitation; not all of these comments included information or data concerning waters of the Lahontan Region. Letters or emails were received from the following:

- **The Bishop Paiute Tribe** provided water chemistry data for Bishop Creek. Review of these data did not indicate the need for new listings.
- **The California Department of Pesticide Regulation (DPR)** sent a letter recommending that Regional Board staff review several DPR webpages containing pesticide data. None of these webpages included information or data for waters within the Lahontan Region.
- **The League to Save Lake Tahoe** sent a letter identifying sources of data and requesting that Lake Tahoe be listed for violations of several additional standards and that additional tributaries of Lake Tahoe be listed. Review of the references mentioned in the League's letter led to several recommendations for new listings for tributaries of Lake Tahoe. See the fact sheet for Lake

Tahoe for clarification of the lake's listing status, and fact sheets for proposed new listings for Ward Creek, Blackwood Creek, General Creek, the Upper Truckee River, Trout Creek, Heavenly Valley Creek, Hidden Valley Creek, Big Meadow Creek, and Tallac Creek.

- **The U.S. Geological Survey (USGS)** provided electronic files of data collected in the Lahontan Region since 1997, primarily for the Walker River watershed. Regional Board staff used these data to recommend new listings for a number of water body-pollutant combinations.
- **The USDA Forest Service, Angeles National Forest** sent a letter requesting a meeting with Regional Board staff to discuss the Forest's ongoing monitoring program. No response was received to a Regional Board staff request that monitoring data be submitted for review to determine the need for a meeting.
- **The Southern California Alliance of Publicly Owned Treatment Works (SCAP)** sent a letter outlining its concerns about evaluation of data and listing/delisting criteria. This letter did not include data or information about specific Lahontan Region water bodies for use in listing/delisting recommendations. Regional Board staff's approach to evaluation and listing/delisting considerations is summarized below.
- **Cathy Ricioli of Kingsbury Middle School** in Zephyr Cove, Nevada submitted student biomonitoring data on Burke Creek, a tributary to Lake Tahoe on its Nevada side. These data will be retained for comparison with future biomonitoring data for California-side streams.
- **Pat Eckert**, former Mammoth Community Water District Board member, sent an email referencing Board agenda material which showed that MTBE had been detected in 1999 and 2000 in samples from Lake Mary, which provides domestic water supply to the Town of Mammoth Lakes. The MTBE was apparently connected with summer motorboat activity. Lake Mary is recommended for addition to the "Watch List" (Table 2), and the problem is being investigated through other Regional Board programs.
- **Carol Sims**, of Environmentally Concerned, Williams, Arizona, sent a short handwritten comment on a returned mailing list update form asking whether the Regional Board had considered pesticide impacts. A written response outlining the Regional Board's pesticide standards and control programs was sent; a copy will be included in the administrative record.

Listing/Delisting Considerations

Regional Boards began intensive participation in the State's Section 303(d) listing process during the mid-1980s. Guidance from the State Board to Regional Boards on listing/delisting criteria has varied with each list update cycle since that time. There is currently no formal statewide listing/delisting guidance, although the State Board plans to develop and adopt formal guidance before the next (2004) listing cycle. The following general listing and delisting considerations reflect past and current direction from the USEPA and discussions among State and Regional Board staff. Lahontan Regional Board staff also developed more specific listing and delisting considerations.

General Considerations

Listing Considerations

Water bodies and associated pollutants should be recommended for addition to the 303(d) list if any one of the following factors applies:

1. Effluent limitations or other pollution control requirements (e.g., Best Management Practices) are not stringent enough to ensure protection of beneficial uses and attainment of water quality objectives, including those implementing State Board Resolution 68-16, the USEPA promulgated standards in the California Toxics Rule and National Toxics Rule, and the Statement of Policy with Respect to Maintaining High Quality of Waters in California (see also 40 CFR 130.7 (b)(1), and standards are not expected to be attained by the time of the next list update cycle (i.e., by 2004). This does not apply to non-attainment related solely to discharges in violation of existing waste discharge requirements or NPDES permits.
2. A fishing, drinking water or swimming advisory issued by local or state public health or environmental health authorities is currently in effect. This does not apply to advisories related to discharges in violation of existing waste discharge requirements or NPDES permits.
3. Beneficial uses are impaired or are expected to be impaired before the next listing cycle (i.e., by 2004). Impairment is based on evaluation of chemical, physical, or biological integrity. Impairment will be determined by “qualitative assessment,” physical/chemical monitoring, bioassay tests, and/or other biological monitoring. Applicable federal criteria and the Regional Board’s Basin Plan water quality objectives determine the basis for impairment status. A qualitative assessment is an assessment based on factors other than ambient monitoring data (for example, predictive modeling, professional judgement, or public comments).
4. The water body is on the previous 303(d) list and either: (a) monitoring continues to demonstrate violation of objectives or (b) monitoring has not been performed and (c) none of the delisting considerations discussed below apply.
5. Data indicate tissue concentrations in consumable body parts of fish or shellfish exceed applicable tissue criteria or guidelines. Criteria and guidelines related to protection of human and wildlife consumption include, but are not limited to, U.S. Food and Drug Administration Action Levels, National Academy of Sciences Guidelines, U.S. Environmental Protection Agency tissue criteria, and California Office of Environmental Health Hazard Assessment “Maximum Tissue Residue Levels (MTRLs).” (See the discussion of MTRLs in relation to the Toxic Substances Monitoring Program below.)
6. The water quality is of such concern that the Regional Board determines that the water body needs to be afforded a level of protection offered by a 303(d) listing.

Delisting Considerations

Water bodies may be removed from the list for specific pollutants if any one of these factors is met:

1. The Basin Plan is revised to change water quality objectives (for example, through the adoption of site specific objectives in place of regionwide objectives), and the violation of standards is thereby eliminated.
2. The Basin Plan is revised to remove a designated beneficial use in accordance with the circumstances set forth in federal water quality standards regulations and USEPA guidance, and the non-support issue is thereby eliminated. (USEPA regulations prohibit the removal of designated uses under certain circumstances.)
3. Faulty data led to the initial listing. Faulty data include, but are not limited to, typographical errors, improper quality assurance/quality control (QA/QC) procedures, or limitations in the analytical methods that would lead to an inaccurate conclusion regarding the status of the water body.
4. It has been documented that objectives are being met and beneficial uses are not impaired based upon an evaluation of available monitoring data, and foreseeable changes in hydrology, land use, or product (e.g., pesticide) use are not expected to result in violations of standards.
5. A TMDL has been approved by the USEPA for that specific water body and pollutant (see 40CFR 130.7 (b)(4)).
6. There are control measures in place which will result in attainment of standards, including protection of beneficial uses, by the next listing cycle (in 2004). Control measures include permits, cleanup and abatement orders, and Basin Plan requirements which are enforceable and include a time schedule (see 40 CFR 130.7 (b) (1) iii).

Lahontan Regional Board Staff Considerations

Natural Impairment. Because of its geological history, the Lahontan Region has a number of water bodies with concentrations of salts and/or toxic trace elements such as arsenic which exceed drinking water standards or criteria for protection of freshwater aquatic life and wildlife. These waters include inland saline (desert playa) lakes and geothermal springs. Past state and federal guidance led to listing of a number of Lahontan Region waters which are “impaired” only by natural sources. A scientific literature review on saline and geothermal waters shows that these waters are unique ecosystems with their own degree of physical, chemical, and biological integrity, and support aquatic life and wildlife adapted to extreme environmental conditions (California Regional Water Quality Control Board, 2000). These waters should not be judged to be “impaired” on the basis of freshwater aquatic life criteria. USEPA (1997) guidance for the development of site specific aquatic life criteria states: *“For aquatic life uses, where the natural background concentration for a specific parameter is documented, by definition that concentration is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans.”*

Other natural phenomena which may lead to violations of water quality standards include catastrophic floods, prolonged droughts, mudslides, and avalanches. All have occurred in the Lahontan Region since the 1980s. At least one water body, Horseshoe Lake near Mammoth, is not “swimmable” due to an air quality problem. Access to recreational facilities near this lake has been restricted because volcanic carbon dioxide is being released through the soil and collects in topographic depressions, including the lake basin, in concentrations which may be lethal.

The Lahontan Basin Plan (page 3-2. “Prohibited Discharges”) recognizes that not all factors affecting water quality may be controllable. It states:

“After application of reasonable control measures, ambient water quality shall conform to the narrative and numerical water quality objectives included in this Basin Plan. When other factors result in degradation of water quality beyond the limits established by these water quality objectives, controllable human activities shall not cause further degradation of water quality in either surface or ground waters.”

The Clean Water Act’s definitions of “pollutants” and “pollution” both specifically reference human causes. These definitions provide justification for not listing waters if violations of standards can be attributed entirely to natural sources. Table 1 includes recommendations for delisting a number of naturally impaired waters. No Lahontan Region waters impaired only by natural sources are recommended for addition to the Section 303(d) list.

Antidegradation. State and federal antidegradation regulations require that specific findings regarding socioeconomic considerations be made to allow lowering of water quality in waters which have better water quality than the level set by water quality standards. Under federal regulations, no long term degradation of designated Outstanding National Resource Waters (such as Lake Tahoe and Mono Lake) is allowed. The Lahontan Basin Plan contains a narrative water quality objective for antidegradation, which references state and federal requirements. USEPA guidance directs that antidegradation be considered in listing decisions. For surface waters of the Lahontan Region where discharges are prohibited, it could be argued that the presence of any non-natural chemicals constitutes degradation in violation of the objective (assuming that findings to allow degradation have not been made) and that such waters should be listed. Examples include boat fuel chemicals monitored in Lake Tahoe and Donner Lake, and the presence of PCBs, probably from atmospheric deposition, in some “pristine” waters of the Lake Tahoe Basin. Staff’s recommendation is that waters should not be listed for violations of the nondegradation objective unless a pollutant is present in a concentration which violates another water quality objective or adversely affects a beneficial use, and unless sample numbers are large enough to provide some confidence that they are representative.

Needs for Changes in Water Quality Standards. Some of the water quality objectives in the Lahontan Basin Plan were established in 1975 based on very limited monitoring data or on older published water quality criteria. These objectives may not reflect the natural background conditions of the affected water bodies, or current scientific criteria for protection of beneficial uses. Concerns have also arisen with the consequences of expressing some objectives as running averages or “means of monthly means.” High historical values may lead to violation of such objectives even if recent water quality is greatly improved. Listing and tentative schedules for TMDL development are recommended for certain water bodies with violations of standards which may need revision. However, the Regional Board may pursue changes in standards, rather than TMDLs, for these waters.

Toxic Substances Monitoring Program (TSMP) Results. Since 1978, about 10 to 15 Lahontan Region waters have been sampled each year for toxic metals and/or organic compounds in the State Board's TSMP. The TSMP involves collection and analysis of fish tissue samples. Results can be compared to historic TSMP results statewide, and to human fish consumption criteria. During past Section 303(d) list update cycles, Regional Boards were directed to list waters where TSMP data for edible tissue exceeded consumption criteria. However, TSMP samples involve a relatively small number of fish and are not statistically representative of the entire fish population. Also, in waters where game fish are stocked, the TSMP results may reflect hatchery conditions rather than ambient water quality. During the 2001-2002 list update, Lahontan Region waters will not be recommended for listing based on TSMP results alone without additional, statistically representative tissue data, ambient water and sediment data, and/or a fish advisory issued by state or local authorities. Additional monitoring will be recommended for waters where TSMP results indicate a possible fish consumption problem.

Intermittent and Ephemeral Waters. Intermittent or ephemeral streams are common in desert portions of the Lahontan Region. Streams which flow underground in defined channels are considered surface waters for purposes of water rights in California, and in the past, Regional Board staff used this interpretation in listing. The Mojave River was listed for priority organics in the 1980s due to subsurface pollutants from the "Barstow Slug" of chlorinated hydrocarbons. Staff's current approach is to recommend that intermittent streams be assessed for listing only on the basis of data collected from water flowing on the surface.

Evaluation Approach

A "weight of evidence" approach was used to develop recommendations for new listings. The weight of evidence approach involves weighing available information as to its ability to demonstrate a credible line of reasoning leading to a conclusion about the condition of the water. Three possible conclusions exist: (1) the water body is not meeting standards; (2) the water body is meeting standards, or (3) based on the available data and information, standards attainment cannot be determined. Regional Board staff's "weight of evidence approach" involved initial screening of available data for data quality, quantity, and frequency of sampling during the current assessment cycle (1997-2001). Compliance with water quality objectives was evaluated, and preliminary recommendations were discussed with Regional Board supervisors and management. Listing based on only one or a few samples, or on qualitative assessment, was not ruled out. However, after review of available data, staff decided to emphasize listing recommendations for clear violations of numeric standards.

Data Quantity and Quality. Some states establish minimum requirements for the quality and quantity of data used in listing decisions. It has not been feasible to develop data quantity/quality thresholds for the Lahontan Region given the limited time and resources available. Staff evaluated available data and information on a case by case basis, and made recommendations using a weight of evidence approach. The assessment process emphasized data collected since 1997 (the year when the previous list update process began, although older data were evaluated in cases where standards are based on running averages or where the status of point and nonpoint source discharges is not known to have changed significantly. To evaluate compliance with objectives based on annual means, staff looked for data sets with sample frequency more than quarterly, and preferably with several years of data.

Most of the data available to Lahontan Regional Board staff were ambient water chemistry data. The Regional Board is sponsoring biomonitoring for eventual development of “biocriteria” objectives, and a limited amount of citizen monitoring data is available. However, reference conditions have not yet been completely defined, and biomonitoring data were not used to recommend any new listings. Sample numbers were small for tissue and sediment data collected since 1997, and Regional Board staff did not recommend any listings on the basis of these data. (To staff’s knowledge, there are no active fish consumption advisories in the Lahontan Region.) No toxicity bioassay data collected since 1997 were available. Listing was recommended only on the basis of data collected and analyzed by agencies, groups, and laboratories known to use appropriate Quality Control/Quality Assurance (QA/QC) procedures. Data with no documented QA/QC procedures, and qualitative “information” were used in some recommendations for the “watch list.”

Standards and criteria. Water quality standards in California include beneficial use designations (for example, Municipal and Domestic Supply, Cold Freshwater Habitat, Water Contact Recreation) and narrative or numerical “water quality objectives” established to protect beneficial uses. The term “water quality objectives” is equivalent to the federal term “water quality criteria.” Most of the water quality standards for the Lahontan Region are contained in the Lahontan Basin Plan. Chapter 3 of the Basin Plan includes direction on determining compliance with water quality objectives. Most numerical objectives are expressed as annual means and 90th percentile levels.

California water quality standards also include the criteria for toxic “priority pollutants” promulgated by the USEPA under the California Toxics Rule and National Toxics Rule, and the statewide “Nondegradation Policy” (State Board Resolution 68-16). Criteria issued by other agencies, which are not part of the formal water quality standards, can also be used to assess impairment. These include fish consumption criteria and advisories and “public health goals”. Lahontan Regional Board staff’s recommended additions to the Section 303(d) list are based primarily on violations of numerical water quality objectives. Sampling of surface waters for the toxic pollutants addressed in the California Toxics Rule and National Toxics Rule in surface waters of the Lahontan Region has been done too infrequently to allow conclusions about impairment and the need for listing in relation to these criteria. Some data were evaluated in terms of other criteria such as Office of Health Hazard Assessment fish consumption criteria and public health goals, but no hierarchical ranking was assigned to different types of criteria. One water body (Searles Lake) is recommended for listing on the basis of a documented beneficial use impairment (for the Wildlife Habitat use), but in general, data regarding aquatic life and wildlife uses in the Lahontan Region are insufficient to permit conclusions about attainment of uses or of narrative objectives related to habitat uses. See the discussions of “Lahontan Regional Board Staff Considerations” above for additional information on the use of standards and criteria in the Lahontan Region’s Section 303(d) assessment.

Watch List. While a number of water body/pollutant combinations clearly qualify for listing, many waters fall into the category where: “based on the available data and information, standards attainment cannot be determined.” Table 2 is a list of these water body/pollutant combinations. The purpose of the list is to highlight the need for additional monitoring and assessment for these waters to determine the need for TMDLs or for action under some other Regional Board program. A “watch list” is not required under Section 303(d) of the Clean Water Act. However, states are directed to identify “threatened” waters under the Section 305(b) water quality assessment program. The “watch list” in Table 2 includes waters from California’s 1998 Section 305(b) report to the USEPA that were then identified as “threatened” or “partially meeting beneficial uses” due to pollutants, but were not on the Section 303(d)

list. Staff will recommend that water body-pollutant combinations added to Table 2 but not identified as “threatened” in the 1998 Section 305(b) report be classified as “threatened” in the 2002 Section 305(b) assessment.

Clarification of Existing Listings

Together with the recommended additions to and deletions from the Section 303(d) list, clarification is proposed for the listing status of a number of other water bodies in the 1998 list. Some of these changes are shown in Table 1; others will be entered into the computer database used for reporting to the State Board and the USEPA. Clarification includes changes in descriptions of pollutants; for example, an earlier single listing for a water body impaired by “nutrients” may be replaced by separate listings for “nitrogen,” “phosphorus,” and/or “iron.” In other cases, the impaired portion of a water body has been identified more specifically, and there may be separate listings for upstream and downstream segments.

Priority Ranking

A priority ranking is required for listed waters to guide TMDL planning pursuant to 40 CFR 130.7. Lahontan Region waters are recommended to be ranked into high, medium, and low priority categories for development of TMDLs based on the following considerations:

1. Water body significance (e.g., importance and extent of beneficial uses, concerns related to threatened/endangered species, and size of the water body)
2. Degree of impairment or threat (such as number of pollutants, and number of beneficial uses impaired)
3. Conformity with related activities in the watershed (such as existence of watershed assessment, planning, pollution control and remediation, or restoration efforts in the area)
4. Potential for protection or recovery of beneficial uses
5. Degree of public concern and involvement
6. Availability of funding and information to address the water quality problem
7. Overall need for an adequate pace of TMDL development for all listed waters
8. Higher priorities given to other water bodies and pollutants.

It should be noted that the criteria can be applied in different ways to different water bodies and pollutants. For example, a water body may be severely impaired, but if there is little likelihood of beneficial use recovery, then a lower TMDL priority might be given.

The proposed TMDL priorities differ in some cases from those assigned to the same waters in the 1998 Section 303(d) list. For the most part, high priorities have been given to waters on the 1998 Section 303(d) list for which TMDL development is already under way. High priorities may also be given to

tributaries of these waters recommended for listing in 2002. Low priorities have been recommended for some water body-pollutant combinations expected to be delisted in 2004 under proposed changes to federal regulations. (For example, the new regulations are expected to clarify that TMDLs are not required for waters impaired by flow alterations.) Lower priorities may also be given to water bodies which need further assessment or regulatory action through some other Regional Board program, which lessens the need to begin TMDL development immediately. TMDL priority rankings and schedules may change during the next (2004) list update cycle.

TMDL Schedules

The USEPA has directed that TMDLs should be developed and completed for all water bodies on the 1998 Section 303(d) list by 2011 (unless there is justification for delisting.) The State Board has requested that Regional Board recommendations for the 2002 Section 303(d) list update include schedules for TMDL development for all listed waters. Recommended end dates for TMDL development for Lahontan Region waters are included in Table 1. For budgeting and reporting purposes, completion of TMDLs in California means formal Regional Board consideration of the adoption of Basin Plan amendments to incorporate TMDLs and TMDL implementation programs. Federal regulations do not currently require TMDL implementation programs, but they are required under California law. The Basin Plan amendment process is lengthy and complex, involving scientific peer review, compliance with the California Environmental Quality Act, and approvals of the amendments by several other agencies following Regional Board action.

Schedules beyond the first two years should be regarded as tentative and dependent on the availability of resources. State and federal budget processes do not allow accurate projection of resources beyond two years. Other factors affecting TMDL schedules include stakeholder group priorities, Regional Board priorities for Basin Plan amendments unrelated to TMDLs, and the availability of a Regional Board quorum for a vote. In cases where a water body was listed on the basis of limited data, the need for additional monitoring to provide data on which to base TMDL calculations will delay completion of the TMDL.

Not all waters ranked as “high” priorities for TMDLs can be scheduled for “immediate” TMDL development. Many of the surface waters of the Lahontan Region meet USEPA criteria for designation as “Outstanding National Resource Waters,” based on considerations such as location in wilderness areas, presence of threatened/endangered species, or other recreational and ecological values. The scarcity of water in much of the region gives it high value. Thus, most 303(d) listed waters in the Lahontan Region could be given high priority based on resource value alone. Resource constraints will not permit all waters with high resource values or severe problems to be addressed at the same time. Some of the waters ranked “high” have been scheduled for later TMDL development.

Because of the large backlog of waters on the 1998 Section 303(d) list requiring TMDL development by 2011, all Lahontan Region waters recommended for addition to the list in 2002 are projected for completion of TMDLs after 2015. If additional resources become available, it may be possible to complete some of these TMDLs sooner. Schedules for the waters on the 2002 Section 303(d) list will be further revised in 2004 and subsequent list update cycles.

Staff Recommendations

Table 1 lists the water bodies or (or segments of water bodies) in the Lahontan Region recommended for addition to or removal from the Section 303(d) list. Table 1 also includes waters on the 1998 Section 303(d) list which are not recommended for change. Priority rankings and end dates for TMDL development are given for waters recommended for the 2002 Section 303(d) list. Tables 1A, 1B, and 1C are subsets of Table 1 with water bodies grouped by categories of recommendations (addition to, deletion from, or retention on the list).

Table 2 is a “watch list” of waters with some indication of problems but insufficient data to warrant listing at this time. Waters on the “watch list” should receive additional monitoring and assessment when resources are available.

The following is a summary of Lahontan Regional Board staff’s recommendations:

Number of water body/pollutant combinations recommended for addition to Section 303(d) list in 2002	45
Number of water body/pollutant combinations recommended for deletion from Section 303(d) list in 2002	29
Number of water body/pollutant combinations on 1998 Section 303(d) list recommended for retention on 2002 list	69
Total number of water body/pollutant combinations recommended for 2002 list	114

References

(The following are general references and references related to “watch list” waters. References related to recommendations for listing and delisting are provided in fact sheets for specific water bodies.)

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